Patent Claims

1. Differential pressure sensor for measuring the pressure difference between a pressure acting on a high-pressure side and a pressure acting on a low-pressure side, comprising:

A measuring mechanism (1) having

a chamber (5) on the high-pressure side that is sealed by a first dividing membrane (2) and filled with a transfer medium, wherein the first dividing membrane (2) is loadable with a pressure acting on the high-pressure side;

a chamber (6) on the low-pressure side that is sealed by a second dividing membrane (3) and filled with a transfer medium, wherein the second dividing membrane (3) is loadable with a pressure acting on the low-pressure side;

a pressure-sensitive element (4) which separates the chamber (5) on the high-pressure side from the chamber (6) on the low-pressure side; and

a throttle (7) for damping overload pulses; characterized in that

the throttle (7) is arranged between the pressure-sensitive element (4) and the second dividing membrane (3).

2. Differential pressure sensor as claimed in claim 1, wherein the transfer medium is a hydraulic liquid, especially a silicone oil.

3. Differential pressure sensor as claimed in claim 1 or 2, wherein the pressure-sensitive element (4) has a

measuring membrane, especially a piezoresistive silicon chip with a measuring membrane.

4. Differential pressure sensor as claimed in one of the preceding claims, wherein the throttle (7) has a sintered body.

5. Differential pressure sensor as claimed in claim 4, wherein the sintered body is a metallic or a ceramic sintered body.

6. Differential pressure sensor as claimed in one of the preceding claims, wherein the throttle has a porous structure.

7. Differential pressure sensor as claimed in claim 6, wherein the porous structure has an effective flow pore diameter of not less than 4 µm and not more than 28 µm, preferably between 8 µm and 16 µm.

8. Differential pressure sensor as claimed in claim 6 or 7, wherein the porous structure has a porosity between 15 vol.% and 50 vol.%, preferably between 25 vol% and 35 vol%.

9. Differential pressure sensor as claimed in one of the claims 4 to 8, wherein the sintered body has an essentially cylindrical form and the length of the sintered body in the axial direction is at least twice as large as the diameter.